

REMARKS

Claims 1-20 are pending in this application. By this Amendment, Applicant amends claims 1 and 11.

Claims 1-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Onishi et al. (U.S. 5,459,368), Tsuji et al. (U.S. 5,699,027) or Ueda et al. (U.S. 6,037,698) in view of Staudte (U.S. 3,969,640), Yachi et al. (U.S. 5,889,357) or Ikata et al. (U.S. 5,281,883). And claims 11-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Onishi et al., Tsuji et al. or Ueda et al. in view of Hafner et al. (U.S. 3,931,388) or Vig (U.S. 4,345,133). Applicant respectfully traverses these rejections.

Claim 1 has been amended to recite:

"A surface acoustic wave device comprising:
a surface acoustic wave element; and
a package containing the surface acoustic wave element, the package including a main body having an opening and a hollow space therein, a cover provided on the upper surface of the main body of the package and arranged to close the opening portion of the main body of the package, signal electrodes arranged to transmit a signal input from the outside of the package and a signal output from the surface acoustic wave element, and a grounding electrode for grounding an unwanted electromagnetic wave generated inside the package; wherein
an insulating joining material is arranged to join the main body of the package and the cover, a metallized electrode which is located above the signal electrodes and is not in contact with the signal electrodes and is not in contact with the insulating joining material, the metallized electrode being provided at a fixed location of the main body of the package, and the metallized electrode is arranged to be conductive to the grounding electrode." (Emphasis added)

The Examiner alleged that Onishi et al., Tsuji et al. and Ueda et al. teach "the surface acoustic wave package structure except the metal is secured to the main body with a conductive joint, e.g. solder" as recited in claim 1 and a ceramic housing as recited in claim 11. Applicant respectfully disagrees.

In contrast to the present claimed invention and the Examiner's allegations, Onishi et al. teaches a metallic grounding electrode 14 which is in **direct contact** with the conductive adhesive layer 15 which joins the main body 8 of the package and the

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cover 13, as seen in, for example, Fig 2 of Onishi et al. Thus, Onishi et al. clearly fails to teach or suggest a metallized electrode which is "located above the signal electrodes and is not in contact with the signal electrodes and **is not in contact with the insulating joining material**, the metallized electrode being provided at a fixed location of the main body of the package" (emphasis added) as recited in the present claimed invention.

Furthermore, Onishi et al. teaches a metal cover 13 that is joined to metallic grounding electrode 14 via a conductive adhesive layer 15 which the Examiner considered to be the claimed metallized electrode. Thus, Onishi et al. fails to teach or suggest an insulative joining material used to join the cap to the body, and, in fact, insulative joining material cannot be used since the metallic grounding electrode 14 is to be electrically connected to the cover 13. It is noted that even if insulative joining material were used in place of the conductive adhesive layer 15, the metallic grounding electrode would be in direct contact with the insulative joining material.

Similarly, Tsuji et al. teaches a metallized grounding electrode 6 which is in **direct contact with** the solder 8 which joins the main body of the package to the cover 17, as seen in, for example, Figs. 1a and 2a of Tsuji et al. Thus, Tsuji et al. clearly fails to teach or suggest a metallized electrode which is "located above the signal electrodes and is not in contact with the signal electrodes and **is not in contact with the insulating joining material**, the metallized electrode being provided at a fixed location of the main body of the package" (emphasis added) as recited in the present claimed invention.

Furthermore, Tsuji et al. teaches a metal cover 17 that is soldered (8) to a metallized grounding electrode 6 which the Examiner considered to be the claimed metallized electrode. Thus, Tsuji et al. fails to teach or suggest an insulative joining material used to join the cover to the body, and, in fact, insulative joining material cannot be used since the metallized grounding electrode 6 is to be electrically connected to the cover. It is noted that even if insulative joining material were used in place of the solder 8, the metallized grounding electrode 6 would be in direct contact with the insulative joining material.

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Likewise, Ueda et al. teaches an upper wiring pattern (metallized electrode) 37 which is in **direct contact with** the solder 41 which joins the main body of the package to the cover 4, as seen in, for example, Fig. 4 of Ueda et al. Thus, Ueda et al. clearly fails to teach or suggest a metallized electrode which is "located above the signal electrodes and is not in contact with the signal electrodes and **is not in contact with the insulating joining material**, the metallized electrode being provided at a fixed location of the main body of the package" (emphasis added) as recited in the present claimed invention.

Furthermore, Ueda et al. teaches a metal cap 4 that is soldered (41) to an upper wiring layer 37 which the Examiner considered to be the claimed metallized electrode. Thus, Ueda et al. fails to teach or suggest an insulative joining material used to join the cap to the body, and, in fact, insulative joining material cannot be used since the wiring layer 37 is to be electrically connected to the cap. It is noted that even if insulative joining material were used in place of the solder 41, the wiring layer 37 would be in direct contact with the insulative joining material.

Staudte, Yachi et al. and Ikata et al. were relied upon merely to teach an insulating joining material. Staudte, Yachi and Ikata fail to teach or suggest any metallized electrode located above signal electrodes, and certainly fail to teach or suggest a metallized electrode which is "located above the signal electrodes and is not in contact with the signal electrodes and **is not in contact with the insulating joining material** is provided at a fixed location of the main body of the package" (emphasis added) as recited in the present claimed invention.

Additionally, the conductive adhesive and solder of Onishi et al., Tsuji et al. and Ueda et al. cannot be replaced with the insulating adhesive material taught by Staudte, Yachi et al. and Ikata et al., as alleged by the Examiner, because Onishi et al., Tsuji et al. and Ueda et al. teach away from providing an insulating adhesive material. Particularly, the insulating adhesive material would prevent electrical connection between the metallized electrodes and the cap of Onishi et al., Tsuji et al. and Ueda et al. which would prevent the devices from operating properly. It is error to find obviousness where references diverge and teach away from the invention at hand.

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W.L. Gore & Assoc. v. Garlock Inc., 721 F .2d 1540, 1550, 220 USPQ 303, 311 (Fed. Cir. 1983). Thus, Applicant respectfully submits that Staudte, Yachi et al. and Ikata et al. cannot be properly combined with Onishi et al., Tsuji et al. and Ueda et al.

The Examiner maintained that "neither #14 of Onishi, #6 of Tsuji or #37 of Ueda is in direct contact with the signal electrodes." However, ALL of #14 of Onishi, #6 of Tsuji and #37 of Ueda are in direct contact with the conductive bonding material provided to join the main body of the package to the cover.

Hafner and Vig were relied upon merely to teach a ceramic housing. Hafner and Vig fail to teach or suggest any metallized electrode located above signal electrodes, and certainly fail to teach or suggest a metallized electrode which is "located above the signal electrodes and is not in contact with the signal electrodes and **is not in contact with the insulating joining material** is provided at a fixed location of the main body of the package" (emphasis added) as recited in present claimed invention.

Claim 11 has been amended to recite:

"A surface acoustic wave device comprising:
a surface acoustic wave element; and
a package containing the surface acoustic wave element, the package made up of a main body of the package of an insulating material having a hollow space therein, a cover of an insulating material provided on the upper surface of the main body of the package and for closing the opening portion of the main body of the package, signal electrodes for transmitting a signal input from the outside of the package and a signal output from the surface acoustic wave element, and a grounding electrode for grounding an unwanted electromagnetic wave generated inside the package; wherein
the main body of the package and the cover are joined at bonding surfaces of the package and the cover by thermocompression bonding, a metallized electrode which is located above the signal electrodes and is not in contact with the signal electrodes and is not in contact with the bonding surfaces of the package and the cover, the metallized electrode being provided at a fixed location of the main body of the package, and the metallized electrode is arranged to be conductive to the grounding electrode."
(Emphasis added)

Each of Onishi et al., Tsuji et al. and Ueda et al. teach that a cover member is joined to a package via a conductive joining material, such as a conductive adhesive or

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solder, NOT by thermocompression bonding of bonding surfaces of the case and the package. Thus, Onishi et al., Tsuji et al. and Ueda et al. clearly fail to teach or suggest **"the main body of the package and the cover are joined at bonding surfaces of the package and the cover by thermocompression bonding, a metallized electrode which is located above the signal electrodes and is not in contact with the signal electrodes and is not in contact with the bonding surfaces of the package and the cover, the metallized electrode being provided at a fixed location of the main body of the package, and the metallized electrode is arranged to be conductive to the grounding electrode"** (emphasis added) as recited in the present claimed invention.

Staudte, Yachi et al. and Ikata et al. were relied upon merely to teach an insulating joining material. Staudte, Yachi et al. and Ikata et al. fail to teach or suggest any metallized electrode located above signal electrodes, and certainly fail to teach or suggest **"the main body of the package and the cover are joined at bonding surfaces of the package and the cover by thermocompression bonding, a metallized electrode which is located above the signal electrodes and is not in contact with the signal electrodes and is not in contact with the bonding surfaces of the package and the cover, the metallized electrode being provided at a fixed location of the main body of the package, and the metallized electrode is arranged to be conductive to the grounding electrode"** (emphasis added) as recited in the present claimed invention.

Hafner et al. and Vig were relied upon merely to teach a ceramic housing. Hafner et al. and Vig fail to teach or suggest **"the main body of the package and the cover are joined at bonding surfaces of the package and the cover by thermocompression bonding, a metallized electrode which is located above the signal electrodes and is not in contact with the signal electrodes and is not in contact with the bonding surfaces of the package and the cover, the metallized electrode being provided at a fixed location of the main body of the package, and the metallized electrode is arranged to be conductive to the grounding electrode"** (emphasis added) as recited in the present claimed invention.

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Accordingly, Applicant respectfully submits that Onishi et al., Tsuji et al., Ueda et al., Staudte, Yachi et al., Ikata et al., Hafner et al. and Vig, taken individually or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claims 1 and 11 of the present application.

In view of the foregoing Amendments and Remarks, Applicant respectfully submits that Claims 1 and 11 are allowable over the prior art for the reasons described above. Claims 2-10 and 12-20 are dependent upon claims 1 and 11, respectively, and are therefore allowable for at least the reasons that claims 1 and 11 are allowable.

In view of the foregoing Remarks, Applicant respectfully submits that this Application is in condition for allowance. Favorable consideration and prompt allowance are respectfully solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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Attorneys for Applicant

Joseph R. Keating
Registration No. 37,368

Christopher A. Bennett
Registration No. 46,710

KEATING & BENNETT, LLP
10400 Eaton Place, Suite 312
Fairfax, VA 22030
Telephone: (703) 385-5200
Facsimile: (703) 385-5080

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VERSION WITH MARKINGS SHOWING CHANGE MADE

1. A surface acoustic wave device comprising:

a surface acoustic wave element; and

a package containing the surface acoustic wave element, the package including a main body having an opening and a hollow space therein, a cover provided on the upper surface of the main body of the package and arranged to close the opening portion of the main body of the package, signal electrodes arranged to transmit a signal input from the outside of the package and a signal output from the surface acoustic wave element, and a grounding electrode for grounding an unwanted electromagnetic wave generated inside the package; wherein

an insulating joining material is arranged to join the main body of the package and the cover, a metallized electrode which is located above the signal electrodes and is not in contact with the signal electrodes and is not in contact with the insulating joining material, the metallized electrode being [is] provided at a fixed location of the main body of the package, and the metallized electrode is arranged to be conductive to the grounding electrode.

11. A surface acoustic wave device comprising:

a surface acoustic wave element; and

a package containing the surface acoustic wave element, the package made up of a main body of the package of an insulating material having a hollow space therein, a cover of an insulating material provided on the upper surface of the main body of the package and for closing the opening portion of the main body of the package, signal electrodes for transmitting a signal input from the outside of the package and a signal output from the surface acoustic wave element, and a grounding electrode for grounding an unwanted electromagnetic wave generated inside the package; wherein

the main body of the package and the cover are joined at bonding surfaces of the package and the cover by thermocompression bonding, a metallized electrode which is located above the signal electrodes and is not in contact with the signal electrodes and is not in contact with the bonding surfaces of the package and the cover, the metallized

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electrode being [is] provided at a fixed location of the main body of the package, and the metallized electrode is arranged to be conductive to the grounding electrode.

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